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ABSTRACT

This survey of occupational education delivery services in Manhattan represents an initial step in the development of a borough-wide plan. The study provides a basis for assessing the potential training resources within the present school structure, as well as a detailed outline of the present scope of services. Elements which have been included in this study include: a review of population trends in the entire Borough and in the high school population in particular for the period 1976 to present; population flow (migration and out-migration); special geographic features; transportation facilities; labor market information specific to the borough; and assessments of the scope and nature of local business. A detailed analysis of present facility and training resources is provided. (Author/RLV)

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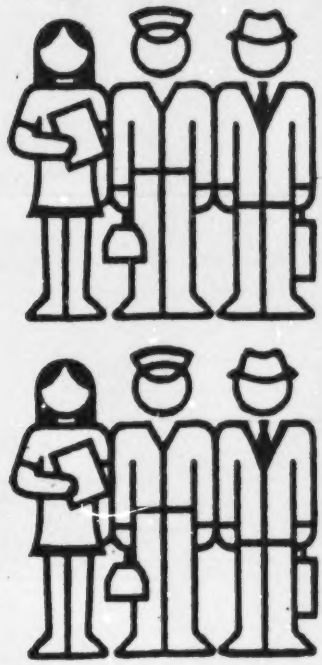

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A Survey of

The Occupational Education Delivery System

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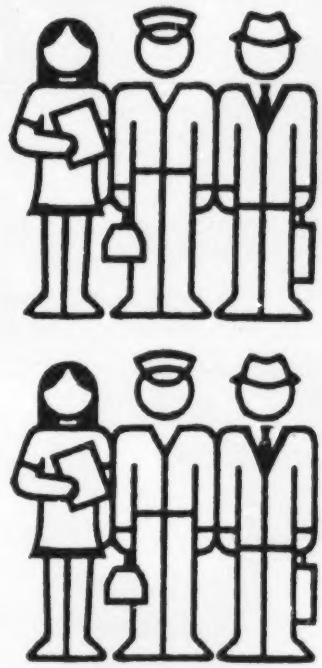

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CENTER FOR
CAREER AND OCCUPATIONAL EDUCATION

Board of Education of the City of New York
Division of Educational Curriculum and Instruction

A SURVEY OF

THE OCCUPATIONAL EDUCATION DELIVERY SYSTEM

in the

BOROUGH OF MANHATTAN

May, 1979

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Acknowledgements

The surveys of each of the five boroughs were undertaken in recognition of the distinctiveness and individuality of the populations, the geography, and labor market needs of each of the boroughs. The size and diversity of New York City is such that a borough-by-borough data base is a necessity for the development of City-wide needs base and ultimately a Regional Plan.

The Borough surveys were initiated and implemented by the Unit for Planning, Evaluation and Research. Major responsibility for the development of the five documents was borne by Leonard Bozza and Eileen Pollack.

Other members of the Unit who contributed to the data collection and interpretation were Richard Halperin, Mildred Davison and William Spier. Ms. Mary Bay was responsible for the typing and production of the documents. She was assisted by Ms. Bessie Jones.

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INTRODUCTION

This survey of the occupational education delivery services represents an initial step in the development of a Borough-wide plan. The surveys of the boroughs,will provide a solid informational base for effective borough-wide and city-wide planning to insure networks of updated and cost effective career and occupational education services.

Elements which have been included in this study include: a review of population trends in the entire Borough and in the High School population in particular for the period 1976 to present; population flow, (migration and out migration) special geographic features; transportation facilities; labor market information specific to the borough; assessments of the scope and nature of local business. An in-depth study of present facility and training resources has been made. This study provides a basis for assessing the potential training resources within the present school structure, as well as a detailed outline of the present scope of services.

Travel patterns have been studied as a bases for expanding training opportunities to students through more intensive use of quality facilities in the Borough.

Overall, an attempt has been made to assess the adequacy of present training resources, in relation to student and labor market needs. While a precise correspondence between training output and job market openings is neither practical, nor always reliable, a serious attempt has been made to perceive training need within the best available job market information.

GENERAL POPULATION TRENDS - BOROUGH OF MANHATTAN

New York City's population, like that of other major cities—especially those in the Northeast and Midwest—decreased between 1970 and 1975. Residents of the City dropped from 7,897,000 to 7,603,000 according to the New York State Economic Development Board. (The Census Bureau, in a recent survey, put the City's population in 1975 and 7.5 million.) The Economic Development Board expects further population losses of about 48,000 a year in the 1975-1980 interval, with the total dropping to 7,531,000 in FY 1977.

The population decline in the first half of the decade was not experienced equally by all boroughs. Manhattan, it is estimated by the Census Bureau, sustained the largest proportionate loss.

In 1950, Manhattan was the second largest borough, with a population of 1,960,101 of which 26.95% were minority persons. The minority population for the city, however, was only 12.64%. By 1960, Manhattan had become the third most populous borough. Between 1950 and 1970, the population of Manhattan decreased by 21.47%, leaving a population of 1,539,243. The minority population had increased by 77,461 while the white population decreased by 498,319, thus resulting in a minority percentage of 39.35. In the same 20 year span, the citywide minority percentage had increased to 31.89%, (almost equal to Manhattan). While the minority population increased by approximately 1.5 million there was a corresponding decrease in the white population of one and a half million.

These data illustrate the degree to which the out-migration of the white population is responsible for the declining City population; they also demonstrate the shift of minority groups to other boroughs outside of Manhattan.

TABLE I: ETHNIC DISTRIBUTION of the POPULATION of MANHATTAN—1950-1970

A) MANHATTAN POPULATION (1950, 1960, 1970)

Year	Minority	%	"Other"	%	TOTAL
1950	528,206	26.95	1,431,895	73.05	1,960,101
1960	631,790	37.20	1,066,491	62.80	1,698,281
1970	605,667	39.35	933,576	60.65	1,539,243

B) PERCENT CHANGE IN MANHATTAN

	Minority	"Other"	TOTAL
1950-1970	+14.66	-34.80	-21.47

TABLE II: ETHNIC DISTRIBUTION of the CITYWIDE POPULATION--1950-1970

A) CITYWIDE POPULATION (1950,1960,1970)

Year	Minority	%	"Other"	%	TOTAL
1950	997,731	12.64	6,894,226	87.36	7,891,957
1960	1,682,901	21.63	6,099,083	78.37	7,781,984
1970	2,517,562	31.89	5,377,299	68.11	7,894,861

B) PERCENT CHANGE CITY-WIDE

	Minority	"Other"	TOTAL
1950-1970	+152.33	-22.00	+0.07

Manhattan Public High School Population

Since 1974 the classification of Manhattan high schools has been changing. In September of that year, Martin Luther King, Jr. High School opened, with only grades 9 and 10, and did not serve all grade levels until 1976. Murry Bergtraum High School opened in 1975, and did not serve juniors and seniors until 1977.

Until 1976 John F. Kennedy High School was considered a Manhattan school. However, since that time it has been considered a Bronx high school. In addition, in September 1976, Norman Thomas High School was reclassified from a vocational to a comprehensive high school.

June 1978 saw the closing of Haaren High School and Food and Maritime Trades High School. In September 1979, the comprehensive high school Park West was opened providing food service training for many of the students who formerly attended Food and Maritime HS in addition to serving a great many other students.

The entire borough secondary school population took a drop in 1977 and increased again in 1978 to 54,662 students. An analysis of population changes by school classification is difficult in light of the aforementioned factors.

Manhattan Private High Schools

There are 52 private schools in the borough of Manhattan which served a total of 17,517 students in grades 9 through 12 in the 1978-79 school year. This population, if added to the 50,180 enrolled in the academic/comprehensive and vocational high schools and the 4,482 in the independent alternative and special schools, represents 24.27% of all students attending Manhattan high schools. This is the highest percentage of all secondary school students attending private schools.

TABLE III A

ETHNIC DISTRIBUTION IN MANHATTAN HIGH SCHOOLS
October 1976

	Minority	%	Other	%	Total
B. Franklin	2,705	99.41	16	0.59	2,721
C.E. Hughes	2,787	98.94	30	1.06	2,817
Seward Park	3,560	89.74	407	10.26	3,967
Haaren	2,052	97.53	52	2.47	2,104
W. Irving	2,582	94.30	156	5.70	2,738
G. Washington	3,829	94.82	209	5.18	4,038
L.D. Brandeis	4,737	97.65	114	2.35	4,851
Stuyvesant	794	29.85	1,866	70.15	2,660
J. Richman	3,308	94.79	182	5.21	3,490
Music & Art	1,516	60.96	971	39.04	2,487
M.L. King	1,986	97.74	46	2.26	2,032
M. Bergtraum	961	84.74	173	15.26	1,134
N. Thomas	2,830	94.62	161	5.38	2,991
Total Acad./Comp.	33,647	88.47	4,383	11.53	38,030
Fashion Ind.	2,401	97.05	73	2.95	2,474
Chelsea	728	64.77	396	35.23	1,124
N.Y. Printing	1,623	89.03	200	10.97	1,823
Art & Design	1,521	62.85	899	37.15	2,420
Food & Maritime	1,296	92.44	106	7.56	1,402
Manhattan	1,796	96.77	60	3.23	1,856
M.D. Bacon	1,152	93.28	83	6.72	1,235
Total Voc.	10,517	85.27	1,817	14.73	12,334
Ind. Alt.	3,955	92.47	322	7.53	4,277
Special Schools	131	96.32	5	3.68	136
GRAND TOTAL	48,250	88.08	6,527	11.92	54,777

TABLE III B

ETHNIC DISTRIBUTION IN MANHATTAN HIGH SCHOOLS
October 1977

	Minority	%	Other	%	Total
B. Franklin	2,362	99.66	8	0.34	2,370
C.E. Hughes	2,627	98.61	37	1.39	2,664
Seward Park	3,419	90.35	365	9.65	3,784
Haaren	1,926	98.47	30	1.53	1,956
W. Irving	2,378	96.39	89	3.61	2,467
G. Washington	3,310	95.03	173	4.97	3,483
L.D. Brandeis	4,076	97.91	87	2.09	4,163
Stuyvesant	852	32.07	1,805	67.93	2,657
J. Richman	3,266	95.00	172	5.00	3,438
Music & Art	1,476	60.49	964	39.51	2,440
M.L.King	2,468	98.96	26	1.04	2,494
M. Bergtraum	1,450	82.86	300	17.14	1,750
N. Thomas	2,904	95.40	140	4.60	3,044
Total Acad./Comp.	32,514	88.57	4,196	11.43	36,710
Fashion Ind.	2,356	97.27	66	2.73	2,422
Chelsea	766	67.79	364	32.21	1,130
N.Y. Printing	1,648	91.61	151	8.39	1,799
Art & Design	1,345	62.88	794	37.12	2,139
Food & Maritime	1,688	93.11	125	6.89	1,813
Manhattan	1,794	97.45	47	2.55	1,841
M.D. Bacon	1,183	95.10	61	4.90	1,244
Total Voc.	10,780	87.02	1,608	12.98	12,388
Ind. Alt.	4,321	94.02	275	5.98	4,596
Special Schools	209	98.12	4	1.88	213
GRAND TOTAL	47,824	88.72	6,083	11.28	53,907

TABLE III C

ETHNIC DISTRIBUTION IN MANHATTAN HIGH SCHOOLS
OCTOBER 1978

	Minority	%	Other	%	Total
B. Franklin	2,127	99.95	1	0.05	2,128
C.E. Hughes	2,745	99.10	25	0.90	2,770
Seward Park	3,535	91.68	321	8.32	3,856
W. Irving	2,316	96.62	81	3.38	2,397
G. Washington	3,172	96.18	126	3.82	3,298
L.D. Brandeis	4,133	97.96	86	2.04	4,219
Stuyvesant	902	32.66	1,860	67.34	2,762
J. Richman	3,377	95.69	152	4.31	3,529
Music and Art	1,482	59.21	1,021	40.79	2,503
M.L. King, Jr.	2,516	98.90	28	1.10	2,544
M. Bergtraum	1,997	78.28	554	21.72	2,551
N. Thomas	2,894	95.07	150	4.93	3,044
Park West	3,734	96.31	143	3.69	3,877
Total Acad./Comp.	34,930	88.48	4,548	11.52	39,478
Fashion Industries	2,334	96.97	73	3.03	2,407
Chelsea	788	70.67	327	29.33	1,115
N.Y. Printing	1,818	94.54	105	5.46	1,923
Art & Design	1,492	65.76	777	34.24	2,269
Manhattan	1,665	97.20	48	2.80	1,713
M.D. Bacon	1,225	96.08	50	3.92	1,275
Total Vocational	9,322	87.11	1,380	12.89	10,702
Ind. Alt.	3,911	92.31	326	7.69	4,237
Special Schools	237	96.73	8	3.27	245
GRAND TOTAL	48,400	88.54	6,262	11.46	54,662

OCCUPATIONAL EDUCATION SERVICES

The delivery system for Occupational Education in the borough of Manhattan consists of programs designed to provide various levels of skills training to high school students, out-of-school youth and adults. Day high school programs are offered in 13 academic/comprehensive and 6 vocational high schools. Students seeking training not available in their high schools are given the opportunity to receive training in selected areas through the Shared Instruction Program or the After School Occupational Skills Program.

DAY HIGH SCHOOLS

In the 1978-79 school year, the 19 schools served a population of 50,180 secondary students. Of the total Manhattan public secondary population (54,662 including Alternative Schools, Auxiliary Services and Special Schools) 21,683 (40%) received occupational training in one of the seven occupational clusters. 13,483 students received occupational training in the academic/comprehensive high schools. 11,225 of those in the academic schools were enrolled in the Business and Distributive Education cluster. This figure includes the entire register of Murry Bergtraum and Norman Thomas High Schools.

A total of 8,149 students received occupational training in the six Manhattan vocational schools; 6,518 of these were enrolled in programs in the Trade/Industry cluster.

VOCATIONAL SCHOOLS

A total of 10,702 students (grades 9 through 12) or 19.58% of the Manhattan public high school population was enrolled in vocational schools in Manhattan. While this is the highest percentage of all the boroughs it must be noted that many of these students come from outside Manhattan, and are enrolled in specialty schools such as Fashion Industries, Mabel Dean Bacon, Printing and Art & Design. Judging by student demand and city-wide employment opportunity, it is apparent that existing programs are well utilized and should be maintained at peak efficiency with expansion recommended in specific curriculum areas.

The limitations of current programs and facilities to equip our graduates with skills consistent with the state of the art and projections of labor market need, should serve as the basis for developing specific plans for updating and expansion.

The vocational high schools in Manhattan, Art & Design, Printing, Fashion Industries, Mabel Dean Bacon, Chelsea, and Manhattan, are all overutilized.

Mabel Dean Bacon (constructed in 1904) and Chelsea (constructed in 1905) are 125% utilized and in urgent need of major modernization or replacement. Other vocational schools in need of significant updating include Manhattan and Fashion Industries.

SHARED INSTRUCTION PROGRAM

The Shared Instruction Program provides opportunities for students to receive occupational training in areas which are not taught at their home school. Students are permitted to travel to and participate in an instructional program offered at another high school during the regular school day.

At present, only 4 Manhattan schools are serving students via the Shared Instruction Program: Norman Thomas, Mabel Dean Bacon, Manhattan Voc., and Charles Evans Hughes. Together, these schools served a total of 232 SIP students in the fall of 1978, with 81 of these traveling from other boroughs. One hundred eighty of the 232 SIP students (78%) attended Norman Thomas HS for courses in business education. A total of 19 Manhattan students traveled outside of the borough for services.

AFTER SCHOOL OCCUPATIONAL SKILLS PROGRAM (ASOSP)

The After School Occupational Skills Program provides opportunities for "disadvantaged" high school students to acquire entry-level skills in select occupational areas. Instruction is offered to students after the regular school day, on Saturdays, and/or in the summer on an open entry-open exit basis.

The ASOSP served 745 Manhattan students during the summer of 1978, and 1,175 during the fall term. No eligible students were rejected from the program. However, general population students do not qualify as "disadvantaged", a condition for enrollment in the program.

Schools hosting after school programs in the 1978-79 school year are: Julia Richman, George Washington, Louis D. Brandeis, Norman Thomas and Park West HS's.

With approximately 60 percent of the borough's high school students not enrolled in any type of occupational education courses, the demand for alternative programs such as ASOSP is great.

TABLE IV

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS**

(by Cluster/School)

October 1978

School	Ag	Business & Dist. Ed.*	Health	Home Economics	Industrial Arts	Trade Industry	Tech	TOTAL
Benjamin Franklin	-	658 (380)	-	-	-	-	-	380
Charles E. Hughes	-		-	101	25	-	62	188
Seward Park	-	1,844 (1,050)	60	-	-	-	-	1,110
Park West	-	40 (40)	-	-	28	1,094		1,162
Washington Irving	-	1,978 (1,130)	128	184	-	-	-	1,442
George Washington	-	729 (420)	52	-	-	-		472
Louis D. Brandeis	-	2,512 (1,430)	108	-	-	-	-	1,538
Stuyvesant	-	-	35	-	-	-	-	35
Julia Richman	-	1,406 (800)	212	35	-	-	-	1,047
Music & Art	-	-	-	-	-	-	-	-
Murry Bergtraum	-	5,125 (2,551*)	-	-	-	-	-	2,551
Norman Thomas	-	5,782 (3,044*)	-	-	-	-	-	3,044
Martin L. King	24	672 (380)	120	-	-	-	-	524
TOTAL ACAD/COMP	24	20,746 (11,225)	715	320	53	1,094	62	13,493
Fashion Industry	-	-	-	-	-	1,627	-	1,627
Chelsea	-	-	-	-	-	811	-	811
N.Y. Sch. of Printing	-	-	-	-	-	1,300	-	1,300
Art & Design	-	-	-	-	-	2,107	137	2,244
Manhattan	-	-	-	-	-	505	561	1,066
Mabel D. Bacon	-	749 (400)	533	-	-	168	-	1,101
TOTAL VOC	-	749 (400)	533	-	-	6,518	698	8,149
GRAND TOTAL	24	21,495 (11,625)	1,248	320	53	7,612	760	21,642
Park East			41					41
			1,289					21,683

*Most Business & Distributive Education students are enrolled in more than one course. The number in parentheses represents an estimated unduplicated student count.

**These figures do not include Exploratory courses. See Table IX

TABLE V

Percentage of Occupational Educational Enrollments
in Manhattan Academic/Comprehensive
High Schools

Benjamin Franklin	380	2128	17.86
Charles E. Hughes	188	2770	6.79
Seward Park	1110	3856	28.79
Park West	1162	3877	29.98
Washington Irving	1442	2397	68.88
George Washington	472	3298	13.31
Brandeis	1538	4219	36.45
Stuyvesant	35	2762	01.27
Julia Richman	1047	3529	29.67
High School of Music & Art	----	2503	-----
Martin L. King	524	2544	20.60
Murry Bergtraum	2551	2551	100.
Norman Thomas	3044	3044	100.
TOTAL	13,493	39,478	34.18

TABLE VI

After School Occupational Skills Program
(ASOSP)
MANHATTAN
1978

COURSE	SCHOOL	July	Oct.	Total
Typing	Julia Richman	—	31	31
Typing	George Washington	51	91	142
Typing	Louis D. Brandeis	40	50	90
Typing	Norman Thomas	55	66	121
Business & Office Machines	George Washington	26	26	52
Business & Office Machines	Louis D. Brandeis	25	14	39
Business & Office Machines	Norman Thomas	—	33	33
Business & Office Machines	Julia Richman	—	19	19
Key Punch, Data Processing Computer Programming	Louis D. Brandeis	20	19	39
Key Punch, Data Processing Computer Programming	Norman Thomas	66	42	108
Retail Sales	Norman Thomas	24	39	63
Office Skills & Management	Louis D. Brandeis	35	—	35
Office Skills & Management	Julia Richman	—	19	19
Travel & Tourism	Julia Richman	—	15	15
Health Medical Office Practices	George Washington	33	27	60
Nursing Skills	Beth Israel	6	—	6
Photography	School of Visual Arts	77	120	197
Commercial Art	Parsons	36	70	106
Restaurant/Food Trades	Park West	—	87	87
Art Careers	Parsons	119	264	383
Art Careers	School of Visual Arts	132	143	275
	TOTALS	745	1,175	1,920

MATCHING TRAINING RESOURCES TO EMPLOYMENT OPPORTUNITY

It is the purpose of this survey to develop the basis for improving the scope and quality of present occupational services in Manhattan. The major factor influencing planning decisions, in addition to student interest and need, is opportunity for employment. A brief description of the general city-wide employment situation is followed by a review of trends in each of the seven major occupational clusters.

CITY-WIDE EMPLOYMENT TRENDS

An upturn in the local economy in 1977 is expected to continue through Fiscal Year 1979. Private industry employment is expected to provide most of the job opportunities.

It is expected that there will be a slowing down of the number of firms moving out of the city and some success in luring some firms to the city.

In New York City there were almost 400,000 fewer jobs in 1977 than there were in 1972, and some continued decrease is anticipated in every major occupational group.

However, nearly 155,000 jobs are expected to be available in Fiscal Year 1979 due to labor force separations resulting from retirement or death. Thus, job opportunities will occur as a result of replacement needs even as total job levels decline.

The projections presented in this report are based on information contained in the Annual Planning Information FY 1979 document issued by the New York State Department of Labor, Division of Research and Statistics, Bureau of Labor Market Information. Among the assumptions on which their projections are based are:

> (a) the institutional framework of the U.S. economy will not radically change, (b) current social, technological and scientific trends will continue, including values placed on work, education, income and leisure, (c) no major event which would significantly alter the industrial structure or the economic growth rate, such as a widespread or long-lasting energy shortage or war, will occur, (d) trends in an occupational structure of industries will be altered radically by changes in relative wages, technology, or other factors and (e) the U.S. economy will gradually recover from the high unemployment level of the mid-1970's as employment expands. Nationally, an unemployment rate of 4.0 percent is assumed for 1985. Based on past national-State relationships, a corresponding New York State rate of 5 3/4 percent is projected.

Long-term projections are that the fastest growing occupations in the period 1974-1985 are:

> computer systems analysts, dental hygienists, therapists, boiler makers, opticians and lens grinders, bank tellers, billing clerks, legal and medical secretaries, animal caretakers, carpenter's helpers, garbage collectors, building interior cleaners and welfare service aides .

AGRICULTURE AND RELATED CLUSTERS

New York City and its suburbs provide many opportunities for employment in the areas of horticulture and landscaping. These opportunities exist in residential areas, numerous parks, highways and parkways.

The New York State Department of Labor's occupational projections for New York City 1974-1985 identified gardeners and groundskeepers as two of the three groups in the agriculture cluster that are expected to have over 100 annual openings during this period.

Instructional Programs

At present Martin L. King Jr. High School provides a course in Ornamental Horticulture for 24 students. No other occupational courses in the Agriculture cluster are offered in the Borough of Manhattan.

BUSINESS AND DISTRIBUTIVE EDUCATION

Manhattan's central business district provides close to two million jobs, and unlike the other boroughs, the job market reflects national and world as well as local economic conditions.

NUMBER OF JOBS IN THE MANHATTAN CBD

1947-76 (in thousands)

YEAR	TOTAL	PERCENT CHANGE
1947	2,400	
1959	2,055	-14.4%
1969	2,255	+10.0
1970	2,220	- 1.6
1971	2,120	- 4.5
1972	2,070	- 2.4
1973	2,035	- 1.7
1974	1,965	- 3.4
1975	1,895	- 3.6
1976	1,845	- 2.6

The clerical field, the largest occupational group in the city, is projected to lose the smallest proportion of workers. Clerical jobs comprise one forth of all jobs in this region. Over 40 percent of all average annual openings will be in clerical occupations. Since all openings are expected to result from labor force separations rather than industrial growth, this translates into one (1) out of every eighteen (18) positions in the clerical field becoming available during 1979. Most openings will be for secretaries, bank tellers, clerical supervisors, and computer operators. Replacement opportunities will be greatest for secretaries, stenographers, typists, bookkeepers and receptionists.

Sales occupations, now 7% of total employment, will experience a decline at the rate of nearly 2,600 a year, due largely to the trend towards limited service or self service retail establishments. However, some jobs will be available due to labor separations.

Real-estate agents and brokers will provide the greatest job replacement opportunities.

Business Education Programs

Courses in Business and Distributive Education are usually five periods per week. Students often attend more than one of these subjects per term, and therefore enrollments tend to be duplicative. The total enrollment for the Business and Distributive Education cluster (11,625) therefore represents an approximate count of unduplicated student enrollments. The entire school register of Murry Bergtraum and Norman Thomas HS's have been included in this number. This figure (5,595) represents 48% of the students enrolled in occupational courses in the Business and Distributive educational area.

Bookkeeping and Accounting is offered to 3,623 students in 10 Manhattan high schools including Mabel Dean Bacon. 1,637 of these students attend either Murry Bergtraum or Norman Thomas High School.

Stenography instruction is provided for 2,473 students while General Office and Typing Skills are taught to 10,511 students in 11 Manhattan high schools.

As part of the ASOSP, G. Washington High School offers Office and Typing, Office Machines; Louis Brandeis offers ASOSP courses in Office and Typing, Office Machine and Key Punch Operations. The ASOSP at Norman Thomas offers the following subjects: Office and Typing, Calculating Machines, Key Punch Machines, Computer Programming, and Retail Sales.

One hundred eighty (180) students attended Norman Thomas High School via Shared Instruction. These students were enrolled in Computer Technology, Secretarial Studies, Data Processing or Business Surveys. All but 27 of these students come from outside the borough of Manhattan.

Distributive Education Programs

General Merchandising is taught in Benjamin Franklin, Washington Irving, Martin L. King Jr., Murry Bergtraum and Norman Thomas High Schools to 918 students.

Insurance, Real Estate and Finance Credit classes were provided in Murry Bertraum for 210 students. Recreation and Tourism were taught at both Murry Bergtraum and Norman Thomas HS's, serving a total of 73 students.

A course in Apparel and Accessories was taught at Martin Luther King and Norman Thomas HS's. Together the two schools served 200 students in this area last year.

No ASOSP, or SIP programs offer Distributive Education courses in Manhattan. In addition, 16 of the 52 private schools in Manhattan offer occupational training in business and distributive education.

SUMMARY--Business/Distributive Education

While the demand for employees with Business skills is great (over 40% of average annual openings will be clerical occupations) the demand for employees in the Sales occupations is expected to decline to below 7% of total employment. Despite this expected decline there will remain a fair number of annual job openings in this area due to labor separations.

With approximately 11,625 students receiving instruction last year in the area of Business and Distributive Education it appears that the scope of course offerings is relatively high. Nevertheless, considering the anticipated continuing job opportunity in business and clerical occupations, and the relatively large numbers of applicants to Norman Thomas and Murry Bergtraum HS's who are not accepted, expanded and diversified services seem to be warranted.

HEALTH

Jobs in health careers occupations are expected to be concentrated in the professional and technical category.

In the service worker category, which is expected to account for 13% of total employment in 1979, only health service workers are expected to expand employment. It is projected that there will be 1,800 average annual job openings due to growth and 5,100 job openings resulting from labor force separations.

Instructional Programs

1,289 students received Health related occupational training in the borough of Manhattan last year. 402 of these students were enrolled in Introduction to Health Careers classes in 6 Manhattan high schools: George Washington, Julia Richman, Mabel Dean Bacon, Washington Irving, Louis Brandeis and Park East HS's.

Julia Richman and Mabel Dean Bacon offered courses in Practical Nursing to 91 students.

In addition, courses in Health Assisting, Nurse Assistant, Medical Assisting and Medical Lab Technician and Emergency Medical technology were provided to a total of 796 students.

SUMMARY--Health

With a total of 6,900 projected annual job openings in health service areas, an upgrading and expansion of present related offerings might be appropriate. Efforts

to redirect high school students from nursing programs which offer little opportunity for employment to high school graduates should be continued. Alternatives in related health service skills areas should provide a practical alternative to students seeking training in health careers.

HOME ECONOMICS OCCUPATIONAL

The Home Economics Occupational cluster includes Food Services, Clothing Services and Child Care services.

While employment cutbacks are anticipated in these areas, a need will remain for employees due to labor separations.

The clothing industry and restaurant business are foundations of the city's economy. Food Services alone provides many employment opportunities in New York City.

Instructional Programs

A total of 320 students received Home Economic Occupational Training in Manhattan last year. Food Services and Clothing Services were offered at CE Hughes and Washington Irving HS's while Child Care Services was offered at both these schools and Julia Richman High School.

Other occupational training programs meeting the demand of the clothing industry and restaurant business are listed in the Trade and Industry section.

Home Economics courses that met for 5 periods per week were offered to 572 students in three Manhattan high schools during the fall of 1978 (see Table VII). These programs are normally not considered to be occupational because they meet for fewer than 10 periods per week.

The Home Economics program in Manhattan high schools seems to be low with only 892 students enrolled in any type of Home Economics course.

INDUSTRIAL ARTS

Industrial Arts facilities are available in Manhattan academic/comprehensive high schools for courses in electricity/electronics, graphic arts, industrial ceramics, mechanical drafting, metalworking, plastics, transportation, woodworking, photography, jewelry and driver education.

While these facilties are found in most of the borough academic/comprehensive high schools, most programs meet only five periods per week. Only two programs located in Industrial Arts facilities meet the critieria for "occupational" (defined as a course offered for 10 periods per week or more).

The combined occupational offerings under Industrial Arts in Manhattan served only 53 students during the fall term of the 78-79 school year. (During this term 25 students were enrolled in an occupational woodworking program at Charles E. Hughes and 28 students registered for an industrial careers program at Park West.)

In addition to the 10 pd/week "occupational" offerings, Industrial Arts facilities in Manhattan high schools were used to provide instruction in a variety of subject areas for 5 pds/week Industrial Arts programs in Manhattan academic/ comprehensive schools.

While the principle purpose of these IA programs is not to provide entry level skills, it must be noted that many have the potential of providing marketable skills to students who elect to take 3 or 4 terms of instruction in one area.

SUMMARY - Industrial Arts

While a variety of 5 period/week Industrial Arts programs are offered in Manhattan high schools, only two use these facilities for 10 pd/week instructional programs. In many cases current IA facilities could provide quality occupational education in trade/industry and technical subjects with some changes in facilities equipment, curriculum and programming procedures.

Better utilization of Industrial Arts facilities at Martin Luther King, Jr. could greatly improve the delivery of skills in trade/industry and technical subjects. In the fall of 1978 the promising facilities at the school were utilized at a level 21% of capacity.

Seven shop facilities capable of operating eight periods per day for a potential of 56 periods of instruction were utilized for only 12 periods per day. None of the shop facilities at this school was used for programs meeting for 10 pds/week.

INDUSTRIAL ARTS - J.H.S.

There are a total of 122 Industrial Arts facilities in 26 of the borough's intermediate and junior high schools. The number and type of facilities are listed below. Industrial Arts facilities in Manhattan intermediate and junior high schools:

Woodworking	27	Metalworking	25
Ceramics	18	Graphic Arts	25
Electricity	19	Crafts	6
Drafting	2		
	Total IA Facilities (in 26 Manhattan Inter. & JHS's)		122

Number of Facilities not in Use as of 3/78 34

These facilities could provide experiences and information to influence choices in the selection of occupational programs on the high school level.

TRADE AND INDUSTRY

Blue-collar occupations which accounted for 24% of all jobs in 1979, will in the future only provide 10% of the job offerings. Over half the jobs lost in 1979 will be in blue-collar areas. There are 26,000 jobs expected to open due to labor force separations; however only 13,000 jobs will be available after allowing for the anticipated net employment loss in this area. Mechanics, repairers and installers are the only occupational classifications not expected to lose jobs in 1979.

Job market prospects in the machine trades were somewhat better than other categories. It is particularly strong for highly skilled operators, with some demand for production machine operators, office-machine servicers and off-set duplicating machine operators.

In the apparel industry, it is expected that there will be high demand for experienced sewing machine operators and alteration tailors, but very limited demand for lesser skilled employees in this industry.

Other occupations with moderate demand expectations are polishers and electric motor assemblers.

The six vocational high schools in Manhattan--Fashion Industries, Chelsea, Printing, Art & Design, Manhattan and Mabel Dean Bacon--served 10,702 of the borough's public high school students in 1978. 6,518 (60.90%) of the students enrolled in vocational high schools received occupational instruction in trade and industry subjects. In addition, 1,094 students received occupational instruction in food trades and other subjects at Park West High School.

Of the six vocational high schools in Manhattan, only Chelsea and Manhattan Vocational High Schools are multi-trade schools. These schools fill the gap in the demand for trade and industry courses not offered in the specialty schools. Together, the enrollments in trade and industry subjects of these schools total 1,316.

Both Chelsea and Manhattan Vocational High Schools are in urgent need of facility modernization and equipment and program updating. These modernizations cannot be delayed if the programs being offered in these schools are to meet the standards necessary to prepare graduates for the world of work.

A program of requirements and a plan to revise the course offerings at Chelsea Vocational High School have been developed. When changes are implemented, Chelsea High School will serve approximately 1,200 students in areas with good employment prospects. Programs in electricity, technical electronics, drafting and electro-mechanical repairs are planned.

Of the 45 subjects listed in the trade and industry area, 29 are now offered in Manhattan.

A Shared Instruction Program in Cosmetology at Mabel D. Bacon served 47 students. 25 came from Brandeis, 7 from Mabel D. Bacon and 15 from schools outside of Manhattan.

SUMMARY - Trade and Industry

While many subjects are offered in this area, the number of students served (7,612) and the relevancy of instruction seem to fall short of requirements. Additional students could be served in trade and industry subjects by improving the utilization of suitable facilities in the academic/comprehensive high schools. Immediate benefits could be realized at Martin Luther King High School.

This high school has 12 shop facilities and only used seven of them during the fall of 1978. Many of the shops were used for a fraction of their daily capacity (see 5 pd/week Industrial Arts and Home Economics charts.)

Methods of improving instruction in existing programs to meet the current demand of industry need exploration. Assuring the adequacy of supplies and equipment, and intensive staff development efforts will do much to improve programs of instruction in the trade and industry subjects.

TECHNICAL

Projections for the city indicate a somewhat brighter look in the high skilled occupations. This reflects the impact of technological innovation and the creation of new job opportunities in professional and technical fields.

According to Herbert Bienstock, Regional Commissioner of the Bureau of Labor Statistics, "the creation of new jobs through technological advance and the development of a more highly skilled labor force to fill these jobs, may be the touchstone for economic revitalization in New York City."

Occupations listed as having significant numbers of openings in the New York City, Long Island areas include: Electronics Technician, Technical Illustrator and Electronics Mechanic.

Instructional Programs

Only 3 technical programs were reported in Manhattan high schools during Fall 1978. Together these programs served 760 students.
Programs offered were:

Electronics Tech. at Charles E. Hughes; Drafting/Drawing, Architechtural at Manhattan and Art & Design

Mechanical Drawing at Manhattan

Technical programs not offerred in Manhattan include:
Draft'g/Draw'g" Mech or Electro-Mech; Chem. Tech.; Civil Tech. (struc. Des/ Str. of materials); Electronics: Communications; Industrial Design; Instrumentation Tech.; Pre-Tech. Engineering

SUMMARY - Technical

A strong need for the expansion of technical programs in Manhattan is apparent when we look at the current limited offerings in the technical cluster and the favorable employment outlook. The redirection of Chelsea High School will enable it to provide high level technical training in a number of areas with good employment opportunities.

TABLE VII

HOME ECONOMICS ENROLLMENTS in the BORCUGH of MANHATTAN

5 Periods per Week

Course Offerings	BENJAMIN FRANKLIN	CHARLES E. HUGHES	SEWARD PARK	PARK WEST	WASHINGTON IRVING	GEORGE WASHINGTON	LOUIS D. BRANDEIS	STUYVESANT	JULIA RICHMAN	MUSIC & ART	MARTIN L. KING	MURRY BERGTRAUM	NORMAN THOMAS	
Clothing 1					30				32		122			
2											28			
3														
Total Clothing					30				32		150			212
Foods 1					182				37					
2					27									
Total Foods					209				37					246
Child Care 1					20				70					
2														
Total Child Care					20				70					90
Other:														
Family Living 1														
2														
Total Family Living														0
Needle Crafts														
Home Nursing 1														
2														
Total Home Nursing														0
Bach. Survival														
Health Care														
Elem. Homemaking														
Consumer Ed.					24									24
TOTAL 5 Pd/Wk HOME ECONOMICS					283				139		150			572

TABLE VIII

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of MANHATTAN

5 Periods per Week

Course Offerings		BENJAMIN FRANKLIN	CHARLES E. HUGHES	SEWARD PARK	PARK WEST	WASHINGTON IRVING	GEORGE WASHINGTON	LOUIS D. BRANDEIS	STUYVESANT	JULIA RICHMAN	MUSIC & ART	MARTIN L. KING	MURRY BERGTRAUM	NORMAN THOMAS	
Electricity	1									25					
	2														
	3														
	4														
Total Electricity/Electronics										25					25
Graphic Arts	1				84				136		144	70			
	2														
	3														
Total Graphic Arts					84				136		144	70			434
Industrial Ceramics	1										125				
	2														
Total Industrial Ceramics											125				125
Mehanical Drafting	1				56				828			62			
	2														
	3														
	4														
Total Drafting				40	56				828			62			986
Metal	1								201	28					
	2														
	3														
	4														
Total Metal									201	28					229

TABLE VIII (Continued)

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of MANHATTAN

5 Periods per Week

Course Offerings		BENJAMIN FRANKLIN	CHARLES E. HUGHES	SEWARD PARK	PARK WEST	WASHINGTON IRVING	GEORGE WASHINGTON	LOUIS D. BRANDEIS	STUYVESANT	JULIA RICHMAN	MUSIC & ART	MARTIN L. KING	MURRY BERGTRAUM	NORMAN THOMAS	
Plastics	1								43						
	2														
Total Plastics									43						43
Transportation	1				148		58								
	2														
	3														
	4														
Total Transportation					148		58								206
Woodworking	1			52			58		112			186			
	2			28											
	3														
	4														
Total Woodworking				80			58		112	184		186			620
Industrial Careers															
Small Engine Repair	1														
	2														
Total Small Engine															0
Marine Technology	1														
	2														
Total Marine Technology															0

TABLE VIII (Continued)

INDUSTRIAL ARTS ENROLLMENTS in the BOROUGH of MANHATTAN

5 Periods per Week

Course Offerings		BENJAMIN FRANKLIN	CHARLES E. HUGHES	SEWARD PARK	PARK WEST	WASHINGTON IRVING	GEORGE WASHINGTON	LOUIS D. BRANDEIS	STUYVESANT	JULIA RICHMAN	MUSIC & ART	MARTIN L. KING	MURRY BERGTRAUM	NORMAN THOMAS	
Aero Space															
Multi Media															
Other:											23				23
Photography	1				34										
	2														
Total Photography					34										34
Jewelry	1			69								98			
	2			11											
Total Jewelry				80								98			178
Driver Education								112							112
TOTAL 5 Pd/Wk Industrial Arts				200	322		116	112	1,320	237	292	416			3015

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

OCT. 1978

TABLE IX

MANHATTAN

	B. FRANKLIN	C.E. HUGHES	SEWARD PK.	PARK WEST	W. IRVING	G. WASHINGTON	L.D. BRANDEIS	STUYVESANT	J. RICHMAN	MUSIC & ART	M.L. KING	H. BERGTRAUM	N. THOMAS
AGRICULTURE													
9th Year Explor. or Pre-Voc.													
Agric. Prod./Farm Mgt.													
Animal Care													
Conservation													
Oceanography													
Ornamental Horticulture											24		
Other													
TOTALS											24		
BUSINESS & DISTRIBUTIVE ED.													
Business & Office Courses													
Exploratory			108			25							
Pre-Vocational (Required)			186		365		424		39				901
Bookkeeping & Accounting	34		897		209	220	290		112		100	704	933
Data Processing			31			36	47				28	910	293
Gen. Office/Clerical/Typewriting	556		703	40	929	413	1,595		1,223		453	2,214	1,914
Information Communications													
Materials Supporting (Transporting, Storing, Recording)													
Stenographic, Secretarial	45		27		201	60	156		32		58	527	1,213
Supervisory & Administrative Mgt.													
Pre-Technical													
Office Related Technology					243							467	
Other													
TOTAL	635	—	1,952	40	1,947	754	2,512	—	1,406	—	639	4,822	5,254
	(360)		(1,160)	(40)	(1,110)	(440)	(1,430)		(800)		(360)	(See Total)	
Distributive Ed. Courses													
Exploratory													
Pre-Vocational (Required)													
Advertising Services													100
Apparel & Accessories											33		167
Auto/Petroleum/Serv. Station Mgt.													
Finance & Credit												115	
Food Distrib./Supermarket Mgt.													
Gen. Merch./Gen. Sales	23				31							53	
Hardware, Materials, Supplies													

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	B. FRANKLIN	C.E. HUGHES	SEWARD PARK	PARK WEST	W. IRVING	G. WASHINGTON	L.D. BRANDEIS	STUYVESANT	J. RICHMAN	MUSIC & ART	M.L. KING	H. BERGTRAUM	N. THOMAS
BUSINESS & DISTRIBUTIVE ED. (Cont'd)													
Distributive Ed. Courses (Cont'd)													
Home Furnishings (Sales)													
Hotel & Lodgings													
Insurance												38	
Real Estate												57	
Recreation & Tourism												40	33
Transportation & Services													
Pre-Technical													
Other													228
TOTAL	23	—	—	—	31	—	—	—	—	—	33	303	528
	(20)				(20)						(20)		
TOTAL BUSINESS & DISTRIBUTIVE ED.	658	—	1,952	40	1,978	754	2,512	—	1,406	—	672	5,125	5,782
	(380)		(1,160)	(40)	(1,130)	(440)	(1,430)		(800)		(380)	(2,551)	(3,044)
HEALTH CAREERS													
9th Year or Exploratory					209				57				
Intro. to Health Careers					75	19	73		67				
Med. or Bio. Lab Tech			60				13				120		
Dental Assistant													
Dental Lab Assistant													
Dental Office Practices													
Health Assistant/Health Service					53				64				
Health Careers for the Handicapped													
Medical Lab Assistant													
Medical Office Practices						33							
Nurse Assistant									49				
Practical Nurse									32				
Other							22	35					
TOTAL			60		337	52	108	35	269		120		
HOME ECONOMICS													
HEOE Food Services		55			66								
HEOE Clothing Services		24			37								
HEOE Child Care Services		22			81				35				
Other													
TOTAL		101			184				35				

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	B. FRANKLIN	C.E. HUGHES	SEWARD PARK	PARK WEST	W. IRVING	G. WASHINGTON	L.D. BRANDEIS	STUYVESANT	J. RICHMAN	MUSIC & ART	M.L. KING	N. BERGTRAUM	N. THOMAS
INDUSTRIAL ARTS													
Aerospace													
Drafting													
Driver Education													
Electricity/Electronics													
Graphic Arts													
Industrial Careers													
Industrial Ceramics				28									
Jewelry													
Marine Technology													
Metalworking													
Multi-Media													
Photography													
Plastics													
Transportation													
Small Engine Repair													
Woodworking		25											
Other													
TOTAL		25		28									
TECHNICAL													
9th Year Exploratory or Pre-Voc.													
Aviation: Aeronautics Tech.													
Draft'g/Drw'g: Architectural													
Draft'g/Draw'g: Elec. or Mech.													
Chemical Tech (Indus. Chem)													
Civil Tech (Struc. Des.)													
Elect'y/onics: Communications													
Elect'y/onics: Computer Tech.													
Elect'y/onics: Elect'y/onics		62											
Fashion: Fashion Design Tech.													
Industrial Design													
Instrumentation Design													
Machine Design													
Pre-Technical Engineering													
Other													
TOTAL		62											

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

TRADE/INDUSTRY	B. FRANKLIN	C.E. HUGHES	SEWARD PARK	PARK WEST	W. IRVING	G. WASHINGTON	L.D. BRANDEIS	STUYVESANT	J. RICHMAN	MUSIC & ART	M.L. KING	M. BERGTRAUM	N. THOMAS
9th Year Exploratory or Pre-Voc.				891									
Auto.: Automotive Body													
Auto.: Automotive Mech.				117									
Auto.: Service Stat. Attend't				29									
Aviation: Aviation Mechanics				168									
Aviation: Ground Suppt. Veh. Maint.													
Bldg/Constr: Cabinet Making													
Bldg/Constr: Carpentry													
Bldg/Constr: Plumbing													
Bldg/Constr: Woodworking													
Clock and Watch Mech.													
Commercial Art													
Commercial Photography													
Cosmetology													
Dental Lab Processing													
Elect'y/onics: Elec. Instal & Prac.													
Elect'y/onics: Radio Electr. Mech.													
Elect'y/onics: Radio & TV Mech.													
Elect'y/onics: TV Broadcasting													
Electro-Mech: Appl/Equip. Rpr.													
Electro-Mech: Bus. Machine Rpr.													
Envir. Contr.: Automatic Heating													
Envir. Contr.: Climate Control													
Envir. Contr.: Comm/Domest. Refrig.													
Fashion: Costume Des/Illus/Drap'g													
Fashion: Fashion Design (Voc)													
Fashion: Fashion Merchandising													
Fashion: Fur Mfr.													
Fashion: Men's Clothing Mfr.													
Fashion: Textile Des.& Weaving													
Fashion: Women's Apparel Mfr.													
Food: Baking				204									
Food: Cafeteria & Catering				344									
Food: Meat Merchandising				87									

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	B. FRANKLIN	C.E. HUGHES	SEWARD PARK	PARK WEST	W. IRVING	G. WASHINGTON	L.D. BRANDEIS	STUYVESANT	J. RICHMAN	MUSIC & ART	M.L. KING	M. BERGTRAUM	N. THOMAS
TRADE/INDUSTRY (Cont'd)													
Graphic Arts & Communication													
Interior Decoration													
Jewelry Design & Mfr.													
Mach/Metal: Machine Shop Prac.													
Mach/Metal: Sheet Metal													
Marine Occupations				145									
Media/TV Production													
Optical Mechanics													
Printing Trades													
Sculpture & Stone Carving													
Upholstery													
Other													
TOTAL				1,985									
GRAND TOTALS	380	188	1,220	2,053	1,651	492	1,538	35	1,104	—	524	2,551	3,044

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	FASHION IND.	CHELSEA	PRINTING	ART & DESIGN	MANHATTAN	M.D. BACON	PARK EAST HS	HARLEM PREP. HS	WEST SIDE HS	AUX. SERVICES	LOWER EAST SIDE	SATELLITE ACAD.	
AGRICULTURE													
9th Year Explor. or Pre-Voc.													
Agric. Prod./Farm Mgt.													
Animal Care													
Conservation													
Oceanography													
Ornamental Horticulture													24
Other													
TOTALS													24
BUSINESS & DISTRIBUTIVE ED.													
Business & Office Courses													
Exploratory						67							200
Pre-Vocational (Required)													1,915
Bookkeeping & Accounting						124							3,623
Data Processing													1,345
Gen. Office/Clerical/Typewriting						471							10,511
Information Communications													
Materials Supporting (Transporting, Storing, Recording)													
Stenographic, Secretarial						154							2,473
Supervisory & Administrative Mgt.													
Pre-Technical													
Office Related Technology													710
Other													
TOTAL						816 (470)							20,777
Distributive Ed. Courses													
Exploratory													
Pre-Vocational (Required)													100
Advertising Services													200
Apparel & Accessories													
Auto/Petroleum/Serv. Station Mgt.													
Finance & Credit													115
Food Distrib./Supermarket Mgt.													
Gen. Merch./Gen. Sales													107
Hardware, Materials, Supplies													

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	FASHION IND	CHELSEA	PRINTING	ART & DESIGN	MANHATTAN	M.D. BACON	PARK EAST HS	HARLEM PREP. HS	WEST SIDE HS	MAN. SERVICES	LOWER EAST SIDE HS	SATELLITE ACAD.	
BUSINESS & DISTRIBUTIVE ED. (Cont'd)													
Distributive Ed. Courses (Cont'd)													
Home Furnishings (Sales)													38
Hotel & Lodgings													57
Insurance													73
Real Estate													
Recreation & Tourism													
Transportation & Services													228
Misc-Technical													918
Other													
Total													
TOTAL BUSINESS & DISTRIBUTIVE ED.						816 (470)							21,695 (11,825)
HEALTH CAREERS													
9th Year or Exploratory						99							365
Intro. to Health Careers						127	41						402
Med. or Bio. Lab Tech						221							193
Dental Assistant													221
Dental Lab Assistant													
Dental Office Practices													117
Health Assistant/Health Service													
Health Careers for the Handicapped													
Medical Lab Assistant													33
Medical Office Practices													49
Nurse Assistant						59							91
Practical Nurse						126							183
Other						632	41						1,654
TOTAL													
HUMAN SERVICES													121
Child Care Services													61
Child Guidance Services													138
Other													320

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

INDUSTRIAL ARTS	FASHION IND.	CHELSEA	PRINTING	ART & DESIGN	MANHATTAN	H.D. BACON	PACK EAST HS	HARLEM PREP. HS	WEST SIDE HS	MIX. SERVICES	LOWER EAST SIDE HS	SATELLITE ACAD.	
Aerospace													
Drafting													
Driver Education													
Electricity/Electronics													
Graphic Arts													
Industrial Careers													
Industrial Ceramics													28
Jewelry													
Marine Technology													
Metalworking													
Multi-Media													
Photography													
Plastics													
Transportation													
Small Engine Repair													
Woodworking													25
Other													
TOTAL													53
TECHNICAL													
9th Year Exploratory or Pre-Voc.					172								172
Aviation: Aeronautics Tech.													
Draft'g/Drw'g: Architectural				137	331								468
Draft'g/Draw'g: Elec. or Mech.					230								230
Chemical Tech (Indus. Chem)													
Civil Tech (Struc. Des.)													
Elect'y/onics: Communications													
Elect'y/onics: Computer Tech.													
Elect'y/onics: Elect'y/onics													62
Fashion: Fashion Design Tech.													
Industrial Design													
Instrumentation Design													
Machine Design													
Pre-Technical Engineering													
Other													
TOTAL				137	733								932

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

TRADE/INDUSTRY	FASHION IND.	CHELSEA	PRINTING	ART & DESIGN	MANHATTAN	M.D. BACON	PARK EAST HS	HARLEM PREP. HS	WEST SIDE HS	MIX. SERVICES	LOWER EAST SIDE HS	SATELLITE ACAD.	
9th Year Exploratory or Pre-Voc.	750	230	399		183								2,453
Auto.: Automotive Body													
Auto.: Automotive Mech.													117
Auto.: Service Stat. Attend't													29
Aviation: Aviation Mechanics													168
Aviation: Ground Suppt. Veh. Maint.													
Bldg/Constr: Cabinet Making		219			56								275
Bldg/Constr: Carpentry		30			30								60
Bldg/Constr: Plumbing													
Bldg/Constr: Woodworking					94								94
Clock and Watch Mech.													
Commercial Art				1,803									1,803
Commercial Photography	177			168									345
Cosmetology						168							168
Dental Lab Processing													
Elect'y/onics: Elec. Instal & Prac.		319											319
Elect'y/onics: Radio Electr. Mech.													
Elect'y/onics: Radio & TV Mech.		243											243
Elect'y/onics: TV Broadcasting													
Electro-Mech: Appl/Equip. Rpr.					91								91
Electro-Mech: Bus. Machine Rpr.													
Envir. Contr.: Automatic Heating													
Envir. Contr.: Climate Control													
Envir. Contr.: Comm/Domest. Refrig.					116								116
Fashion: Costume Des/Illus/Drap'g	54			136									190
Fashion: Fashion Design (Voc)	298												298
Fashion: Fashion Merchandising	126												126
Fashion: Fur Mfr.	82												82
Fashion: Men's Clothing Mfr.	116												116
Fashion: Textile Des.& Weaving	45												45
Fashion: Women's Apparel Mfr.	621												621
Food: Baking													204
Food: Cafeteria & Catering													344
Food: Meat Merchandising													87

OCCUPATIONAL ENROLLMENTS IN MANHATTAN HIGH SCHOOLS

(By Course/School)

Oct. 1978

TABLE IX (Continued)

MANHATTAN

	FASHION	CHELSEA	PRINTING	ART & DESIGN	MANHATTAN	M.D. BACON	PARK EAST HS	HARLEM PREP. HS	WEST SIDE HS	MIK. SERVICES	LOWER EAST SIDE	SATELLITE ACAD.	
TRADE/INDUSTRY (Cont'd)													
Graphic Arts & Communication													
Interior Decoration	78												78
Jewelry Design & Mfr.	30												30
Mach/Metal: Machine Shop Prac.					118								118
Mach/Metal: Sheet Metal													
Marine Occupations													145
Media/TV Production													
Optical Mechanics													
Printing Trades			1,300										1,300
Sculpture & Stone Carving													
Upholstery													
Other													
TOTAL	2,377	1,041	1,699	2,107	688	168							10,065
GRAND TOTALS	2,377	1,041	1,699	2,244	1,421	1,270	41						24,873

REFERENCES AND SOURCES OF INFORMATION

- School Profiles: New York City Board of Education 1976-1977
- Form 11: Analysis of School Organization Register by Courses and Terms; CCOE, New York City Board of Education
- Annual School Census - October, 1977; October, 1978
- Pupil Ethnic Composition Report; Office of Educational Statistics; New York City Board of Education
- Transportation Information; New York City Transit Authority

Information was supplied through the cooperation of the following Offices:

After School Occupational Skills Program

Shared Instruction Program

Home Economics

Industrial Arts

Trade and Technical

Health Careers

Business and Distributive Education